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ABSTRACT

The 1979 brief on operating support to the Ontario Council on University Affairs (OCUA) is presented. Section One presents an analysis of the revenue implications of the announced level of government funding for 1979-80 and measures this against the advice proffered by both the Council of Ontario Universities (COU) and the OCUA. Section Two sets out recommendations of the COU to OCUA on the factors to be used in its global funding model for 1980-81. Section Three addresses the implications of the extension of the government's program of fiscal restraint to 1983-84. Specific contents include: background information on funding; the impact of inflation on salaries; the increasing cost of benefits; non-salary inflation; furniture and equipment; projected enrollment variation; establishing the funding base for 1980-81; factors used in the calculation of the funding base; and cost of the COU basic funding recommendations. (SW)

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BRIEF TO THE

ONTARIO COUNCIL ON UNIVERSITY AFFAIRS

WHO PAYS THE PRICE?

HE 011 165

Prepared by the

COU Committee on Operating Grants

Council of Ontario Universities
Conseil des Universités de l'Ontario
130 St. George Street
Suite 8039
Toronto, Ontario M5S 2T4

March, 1979

79-2

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COUNCIL OF ONTARIO UNIVERSITIES
CONSEIL DES UNIVERSITÉS DE L'ONTARIO

130 ST. GEORGE STREET, SUITE 8039
TORONTO, ONTARIO M5S 2T4
(416) 979-2165

1979 03 12

Dr. W.C. Winegard
Chairman
Ontario Council on University Affairs
700 Bay Street
7th Floor
Toronto, Ontario.

Dear Dr. Winegard:

On behalf of the Council of Ontario Universities, I am pleased to transmit to you our 1979 brief on operating support to the Ontario Council on University Affairs. This brief, prepared by the COU Committee on Operating Grants, has been approved by our Council.

We look forward to our meeting with OCUA on 16 March for a continuing dialogue on matters of urgent interest to the Ontario university community.

Sincerely,

Edward J. Monahan
Executive Director

EJM:bk

PREFACE

The present operating grants brief might be viewed to some extent as a logical extension of the work begun in last year's brief "The Price of Restraint". In large measure, it is presented in a similar format and replicates a good deal of the methodology of financial analysis adopted last year. The message remains the same - continuing concern about potentially massive government underfunding - but the outcome of our financial models presents a bleaker future than we would have reasonably expected. The question remains also: Who will ultimately pay the price of restraint?"

Section 1 of our brief presents an analysis of the revenue implications of the announced level of government funding for 1979-80 and measures this against the advice proffered by both COU and OCUA. As will be demonstrated, the Operating Grants Committee believes that the government's provision for higher education in 1979-80 will produce a cumulative level of underfunding of $54.1 million by comparison to 1977-78 funding.

Section 2 sets out our recommendations to OCUA on the factors to be used in its global funding model for 1980-81. Implementation of this advice would generate total expenditure for the system 7.3% higher than in 1979-80. Because of the stability of other income and the lost revenue arising from declining enrolment, government grants and tuition fees must be increased by 8.04%. Finally, the need for additional funding to redress past revenue shortfalls is noted.

Section 3 addresses the implications of the extension of the government's programme of fiscal restraint to 1983-84. The revenue models used

generate a level of underfunding of $220 million and require a cumulative expenditure reduction of about 25% by comparison to 1977-78 base expenditure. The Operating Grants Committee believes that such a large expenditure reduction is not in the best interests of the people of Ontario.

Before proceeding with the discussion which follows, readers should bear in mind two general caveats. First, this brief is not intended as a projection of the future. Rather, it is a statement of what might be expected to descend upon our universities if action is not taken to change the priorities of the government during this period of fiscal restraint. In some respects then, the most successful projections will be those which never come to pass.

Second, we note that throughout this brief, we continually refer to an Ontario university system when really no such creature exists. The university institutions of this province are autonomous components of a collectivity, each at a particular stage in its own development, each with its own strengths and weaknesses, and each with a different degree of resilience to the financial scenario we paint. If we may be permitted the immodesty of quoting from our own work.."For the system it is a question of reduction in quality and range of academic services; for some universities it could be a matter of survival."[1]

---

[1]The Price of Restraint, p.6

1.0 BACKGROUND ON FUNDING

1.1 Level of Funding for 1979-80

On January 5, 1979, the Minister of Colleges and Universities announced a level of government funding for universities in 1979-80 of $782.4 million. This compares to an announced funding level of $745.4 million for 1978-79 and was represented as an increase of 4.96%. The 1978-79 figure excludes, however, a sum of $850,000 for bilingualism which was advanced from the 1977-78 MCU line item budget. For purposes of strict comparability, this should be added to the 1978-79 funding level, generating a base figure of $746.25 million. On this basis, the Minister's announcement represents an increase in funding of $36.15 million or 4.84%.

What follows in this section is an attempt to estimate the total revenue implications of this level of government funding and a comparison of the government's funding level with that recommended by COU and by OCUA in its advisory memorandum 78-I.

1.2 Comparison between COU request and OCUA 78-I

With only two exceptions, OCUA concurred with the recommendations contained in COU's 1979-80 operating grants brief, "The Price of Restraint", regarding the factors to be used in OCUA's system

funding model. These two variations concerned the so-called "efficiency factor" (-0.7% in OCUA 78-I vs. -0.4% in "The Price of Restraint") and the predicted rate of enrolment variation (-3.0% in 78-I vs the -2.2% used by COU). With respect to the "efficiency factor", the positions of COU and OCUA continue to come closer together and the Operating Grants Committee presents further discussion of the matter in Section 2.6 of the present brief.

With respect to the predicted rate of enrolment variation, one can only note that both COU and OCUA were remarkably close to forecasting the actual rate of enrolment decline of 2.5%. As was the case last year, we have chosen to recast the COU and OCUA projection of system requirements using this actual rate (see Table 1-1). The difference of $3.1 million between the two requests is entirely attributable to the different values assigned to the "efficiency factor". COU's recommended funding level (adjusted for actual enrolment) implied a 6.75% increase over 1978-79; the comparable figure for OCUA's advice was 6.42%.

With respect to both sets of advice, it should be noted that FTE enrolment is a key element in the series of calculations which generate final system requirements. Universities, however, are funded on the basis of BIU's, which take account of programme cost differentials. In recent years, there has been a quite perceptible

Table 1-1

Recalculation of OCUA and COU Funding Recommendations for 1979-80
($000,000's)

	Estimated Expenditure 1978-79	Inflationary Trend Cost 1979-80	Existing Service Level Cost 1979-80	Efficiency Factor (Negative)	Predicted Enrolment Costs 1979-80	Excess Capacity Factor + or (-)	Cost of Basic Objectives 1979-80
OCUA							
Salaries	670.5	40.2	14.2	(5.1)	(18.0)	9.0	710.8
Benefits	78.2	4.7	1.7	(0.6)	(2.1)	1.1	83.0
Non-Salary	187.3	13.9	5.0	(1.4)	(5.1)	2.6	202.3
Total	936.0	58.8	20.9	(7.1)	(25.2)	12.7	996.1
COU							
Salaries	670.5	40.2	14.2	(2.9)	(18.1)	9.1	713.0
Benefits	78.2	4.7	1.7	(0.3)	(2.1)	1.1	83.3
Non-Salary	187.3	13.9	5.0	(0.8)	(5.1)	2.6	202.9
Total	936.0	58.8	20.9	(4.0)	(25.3)	12.8	999.2

shift of enrolment to programmes with higher BIU values per student. Thus, while enrolment declined by 2.5% between 1977-78 and 1978-79 the number of BIU's, the basis on which institutions are actually funded, declined by only 1.7%.

1.3 The Ministry's Provision for 1979-80

The change in government funding between 1978-79 and 1979-80 may be summarized as follows:

	1978-79 $000,000's	Adjusted[2] 1978-79 $000,000's	1979-80 $000,000's
Provided by MCU for distribution by OCUA	$736.40	$739.00	$775.90
MCU line item grants	9.85[1]	7.25	6.50
	$746.25	$746.25	$782.40

[1] Includes $850,000 for bilingualism advanced from 1977-78 funds

[2] Adjusted to reflect line item transfers of $1.0 million for bilingualism and $1.6 million for nursing at Ryerson.

The funds available for distribution by OCUA have increased by $36.90 million or 4.99% while total funds available for distribution have increased by $36.15 million or 4.84%. The adequacy of government grants, however, can only properly be judged within the context of total operating revenue, the two other major components of which are tuition fee revenue and "other" revenue.

The starting point for projecting tuition fee revenue is OCUA's 1978-79 base of $140.0 million (adjusted for actual enrolment). The figure for 1979-80 is derived as follows:

Estimated for 1978-79		$140.0 million
Less:	2.5% for enrolment drop	(3.5)
Add:	5.0% for fee increase	6.8
	Foreign fees	2.0
Estimated for 1979-80		$145.3 million

Similarly, the base for projecting "other" revenue is OCUA's estimate of $57.55 million (adjusted for funds advanced and transferred). OCUA assumed that "other" revenue would increase to $60.8 million in 1979-80 in view of "recent evidence of moderate growth" in this sector. Based on the evidence cited in section 2.9 of the present brief, the Operating Grants Committee continues to be conservative about "other" revenue and projects no growth here. Indeed, reflecting the decrease in the MCU line item budget, which OCUA includes in the category of "other" revenue, it has reduced the total for 1979-80 to $56.80 million.

The 1979-80 system revenue as recommended by COU and OCUA can now be compared with that arising from the level of government funding provided by MCU.

(in $000,000's)	1978-79	1979-80		
		COU	OCUA	MCU
Available for distribution by OCUA	$739.0	$797.6	$794.5	$775.9
Tuition fees	140.0	145.3	145.3	145.3
Other Revenue	57.5	56.8	56.8	56.8
	$936.5	$999.7	$996.6	$978.0
% Increase over 1978-79		6.75	6.42	4.43

It is clear that the government's provision for higher education in 1979-80 falls well short, by $21.7 million, of the minimum requirements defined by COU in its operating grants brief, "The Price of Restraint". In contrast to the level of funding request which would have allowed system revenue to increase by a modest 6.75%, the government's provision will see system revenue rise by only 4.43%.

1979-80 is the second year in which the government's general programme of fiscal restraint has had a serious impact on levels of university financing and the second year in which the government has chosen to ignore the recommendations of its own advisory agency, OCUA. In the past, it has been apparent that OCUA has moderated its advice to the government in order to take account of the fiscally restrained environment in which the

Ontario university system must function. Indeed, the same measure of responsibility has been demonstrated by COU in its advice to OCUA.

As will become apparent, however, in section 3.0 of this brief, no reasonable model of system requirements will generate funding levels compatible with a period of restrained government funding extending, as it now does, to 1983-84. Conceivably then, the principal focus of these annual briefs to OCUA must change from that of conservatively estimating system needs for a coming fiscal year to that of accurately measuring the cumulative level of underfunding as we regress through this period of restraint.

The Operating Grants Committee is not yet prepared to commit itself to such a change in direction and continues, therefore, to assess its role and the purpose of its annual brief. It notes, however, that the current level of underfunding, based on its advice of the past two years, has now reached $54.1 million.[2]

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[2]This is derived by inflating the $30.6 million shortfall identified by COU in its 1979-80 advice to OCUA and adding to it the $21.7 million identified in the present brief.

2.0 SYSTEM REQUIREMENTS FOR 1980-81

2.1 The Impact of Inflation on Salaries

As we indicated last year, projections for inflation and increases in average salary levels are difficult to develop. Neither federal nor provincial government projections, as available from published sources, have been any closer to the mark than our own estimates. The problem for us, however, is not only projecting the rate of inflation, but also projecting for how long university staff will tolerate rates of salary increase below those being awarded in other sectors. Among other effects, these lower rates of salary increase have a particularly deleterious impact on the potential pension benefits of senior staff approaching retirement age.

2.1.1 Faculty Salaries

In the operating grants briefs for the last two years we have used 6% per year as the appropriate level of inflationary increase on salaries in the Ontario university sector. As an estimate of the rate of inflation, our figures have been low. As an estimate of the scale increases granted to Ontario university faculty, however, our figure has been high, but only because faculty have had to accept salary increases below those commonly awarded in other sectors. For example, the average scale increase granted to Ontario university faculty for 1978-79 was 3.7% compared to an increase in CPI of 9%.

In Table 2-1 we present, in slightly revised format and with some revisions to definitions, an update to the salary indices presented last year. It will be seen that faculty have continued to fall behind the increases awarded in other sectors. We cannot accept that continuation of this trend is in the best interests of the university system.

Table 2-1

Indices[1] of Average Salary Levels

Profession	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
Economists[2]	100.0	107.7	123.9	139.8	150.4	162.5
Engineers[3]	100.0	107.1	126.5	142.3	157.6	169.1
Research Scientists[4]	100.0	106.5	122.1	134.0	145.0	159.2
Federal Govt. Employees[5] Executive, Scientific and Professional	100.0	106.8	119.3	139.5	144.1	158.0
Teachers[6]	100.0	108.6	123.0	136.3	166.0	181.4
Ontario University Faculty[7]	100.0	106.3	116.3	131.0	144.1	155.8

1. Data on average salaries have been converted to a base of 100 for 1972-73.
2. Economist-Statistician level 3 in manufacturing, communications, service, and finance sectors. Data from Canada Pay Research Bureau.
3. Engineer level 3 in mining, manufacturing, communications, and service sectors. Data from Canada Pay Research Bureau.
4. Research scientists in mining, manufacturing, communications, and service sectors. Data from Canada Pay Research Bureau.
5. Salary of federal government employees in Ontario. "Federal Government Employment", Quarterly Report, Statistics Canada.
6. Average salary of secondary teachers in Ontario. "Salaries and Qualifications of Teachers in Public, Elementary and Secondary Schools", Statistics Canada.
7. Full associate and assistant professors only. "Salaries of Full-Time Teaching Staff at Canadian Universities", Statistics Canada.

2.1.2 Non-Academic Staff, Professional and Management

Each year Hay Associates Canada Ltd., a major management consulting firm, produces two management compensation comparisons, one from a sample of industrial companies and one from the "institutional" areas of education, government, and health. Comparisons of both average salary policy lines (based on the midpoints of salary ranges) and total compensation lines (based on actual total compensation paid to staff) show that from 1973 to 1978, universities have slipped in position with respect to industry and other institutional areas (see Table 2-2).

Table 2-2

Cumulative Salary Changes for the Period 1973 to 1978
(using consistent group compositions)

Policy Lines

	100 Hay[1]	200 Hay[1]	400 Hay[1]
Industrial[2]	60.3%	58.0%	52.5%
Institutional[3]	47.2%	48.5%	47.7%
Universities[4]	45.6%	43.3%	42.7%

Total Compensation Lines

	100 Hay[1]	200 Hay[1]	400 Hay[1]
Industrial[2]	59.9%	59.4%	50.9%
Institutional[3]	51.4%	52.2%	56.7%
Universities[4]	50.5%	47.2%	48.3%

1. 100 Hay, 200 Hay and 400 Hay represent increasing levels of responsibility. All data from Hay Associates Canada Ltd. management compensation comparisons.
2. Data for a substantial sample of large and medium size industrial organizations across Canada.
3. Data for a sample of educational, government and health organizations across Canada
4. Data for 4 Ontario universities participating in Hay Associates Canada Ltd., management compensation surveys.

The comments that we have made concerning faculty apply equally to management staff. Indeed, in a time of restraint, OCUA should be concerned that universities retain administrative staff of the highest calibre. If the government continues to provide levels of funding which fail to meet even our conservative estimate of the rate of inflationary increases, this objective will be jeopardized.

2.1.3 Non-Academic Staff, Other

Other non-teaching staff comprise a very important component of the university system, yet one which, as we will remark elsewhere, is numerically perhaps the most vulnerable of all components. Non-teaching staff tend to have greater mobility than other university staff and universities have therefore generally been forced to provide increases which maintain pay rates at a level comparable to those paid elsewhere in the community.

Table 2-3 shows clearly that the increases granted to university support staff in recent years have been of the same order as those granted to support staff in other sectors. Recently announced increases in the private sector, however, and surveys of intended compensation in business and industry for 1979[3] indicate that universities will be hard pressed to maintain the salaries of other non-teaching staff at competitive levels.

---

[3]See, for example, "The Financial Post", December 16, 1978.

Table 2-3

An Index of Average Salary Levels
Non-Academic Staff

	1972	1977
Technical[1]	100.0	167.9
Office[1]	100.0	172.3
Trades and Services[1]	100.0	174.2
University Support Staff[2]	100.0	167.3

1. Salary Trends and Characteristics In Industrial and Other Organizations, Pay Research Bureau.

2. Derived from COU Research Division survey of salary increases for Ontario university secretarial/clerical staff. Index based on weighted average of sum of scale and merit increases at eleven Ontario universities, with adjustments for calendar year comparison.

2.1.4 Allowance for Inflation on Salaries

In view of the evidence presented above, the Operating Grants Committee feels compelled to recommend an economic adjustment factor for salaries in 1980-81 of at least 6%. This provision for economic adjustment on salaries is a conservative one in the face of a current level of inflation of 9%. It is the Committee's response to repeated exhortations on the part of national and provincial leaders that economic salary gains must be less than the rate of inflation to prevent another inflation spiral. We can, of course, only maintain such a position if evidence develops to suggest that others, and particularly those in the public sector, are doing so as well.

2.2 The Increasing Cost of Benefits

For the past several years, the Operating Grants Committee has been surveying COU member institutions regarding benefit costs. The results of our most recent survey, presented in Table 2-4, differ in format from previous figures only by the exclusion of OMAF funds at Guelph.[4]

Total benefit costs in 1977-78 increased by 10.2% over 1976-77. This compares to the anticipated 8.9% increase presented in last year's brief. The estimated total costs of benefits in 1978-79 are presently seen to be 7.6% higher than in 1977-78 though this low rate of increase is largely attributable to projected reductions in payments for experience deficiencies and past service liabilities on pension plans.

We present in Table 2-5 a short history of the annual rise in benefit costs vs. salary costs based on COFO data to 1975-76 and survey data thereafter.

Since 1970-71, benefit costs have been increasing at a more rapid rate than have salary costs, such that benefits as a proportion of salaries have grown by 37% (from 8.3% to 11.4%). This may be attributed in part to rate changes and in part to benefit improvements.

---

[4]These are funds which the University of Guelph receives from the Ministry of Agriculture & Food and which are no longer reported as part of the university's operating funds for the purpose of COFO-UO reporting.

Table 2-4

Comparison of Benefit Costs
1976-77, 1977-78 and 1978-79

	1976-77 ($000's)	1977-78 ($000's)	Increase between 1976-77 + 1977-78 ($000's)	Increase between 1976-77 + 1977-78 %	1978-79 ($000's)	Increase between 1977-78 + 1978-79 ($000's)	Increase between 1977-78 + 1978-79 %
Total Salaries	578009	633221	55212	9.6	675009	41788	6.6
Pension: Current service	33096	36923	3827	11.6	40768	3845	10.4
Group Life	3294	3797	503	15.3	3959	162	4.3
Long Term Disability	1591	1863	272	17.1	2132	269	14.4
Dental	901	1309	408	45.3	2137	828	63.3
OHIP	5719	5926	207	3.6	6652	726	12.3
Canada Pension	5481	6068	587	10.7	6700	632	10.4
Workmen's Comp.	956	979	23	2.4	1047	68	6.9
Unemployment Insurance	7230	7477	247	3.4	7841	364	4.9
Other	1549	1715	166	10.7	2005	290	16.9
Subtotal	59817	66057	6240	10.4	73241	7184	10.9
Experience Deficiency	2591	2324	(267)	-10.3	1015	(1309)	-56.3
Past Service Liability	2428	3040	612	25.2	2608	(432)	-14.2
Total Benefits	64836	71421	6585	10.2	76864	5443	7.6

Table 2-5

Benefit Costs and Increases Relative to Salary Expenditure 1970-71 to 1978-79

	% Increase in Salary Expenditure	% Increase in Benefit Expenditure	Benefits as a % of Salaries
1970-71			8.3
	14.8	22.7	
1971-72			8.8
	6.9	13.2	
1972-73			9.3
	9.6	11.1	
1973-74			9.5
	13.2	17.9	
1974-75			9.9
	21.9	31.6	
1975-76			10.8
	11.8	16.9	
1976-77			11.2
	9.6	10.2	
1977-78			11.3
	6.6	7.6	
1978-79			11.4

In view of the relatively low rates of increase in the salaries of university staff and in view of the level of benefits afforded to staff in other publicly supported activities, the pressure towards improved benefits is understandable and likely to continue. Between 1971-72 (the first year for which benefits data appears separately in the Public Accounts) and 1977-78, benefits as a proportion of Ontario public service salaries rose from 9.9% to 14.8%, an increase of 49.5%. Data for the universities show a change from 8.8% to 11.3%, an increase of 28.4%.

Based on this evidence, the Operating Grants Committee has no alternative but to recommend to OCUA that the provision for increased benefit costs be higher than the provision for increased salary costs. An average heavily weighted to take account of recent years experience would suggest something of the order of a 30% differential, giving rise to a provision of 7.8% for benefits. Were public service benefit costs to remain a constant 14.8% of salaries from now on, the differential recommended above would see university benefits as a proportion of salaries attain public service levels some 16 years hence.

2.3 Non-Salary Inflation

Last year, the Operating Grants Committee commissioned the Committee of Finance Officers to undertake the formulation of an Ontario University Non-Salary Price Index (OUNSPI). This work has been updated and summary results appear in Table 2-6. Detailed results appear as an appendix to this brief.

The Committee notes that Ontario university experience with respect to particular components of OUNSPI are understated in the rate of inflation reflected in Statistics Canada price indices. Because of the work involved we are unable to develop substitute indices,

but recognize that the composite rate of increase in the cost of the non-salary items is likely to be greater than that indicated by OUNSPI. The average differential between rates of increase in the CPI vs. OUNSPI remains little changed from last year.

We recommend, therefore that OCUA continue to afford a premium of 23% for non-salary inflation above the general rate of inflation indicated by the CPI. This would generate a factor for non-salary inflation of 7.4%.

Table 2-6

Ontario University Non-Salary Price Index
(1979 revision; 1970-71 = 100)

YEAR	OUNSPI	CPI	OUNSPI Annual % Increase	CPI Annual % Increase
1970-71	100.0	100.0		
1971-72	104.5	103.9	4.5	3.9
1972-73	108.3	109.2	3.6	5.1
1973-74	121.1	118.9	11.8	8.9
1974-75	142.3	132.5	17.5	11.4
1975-76	157.9	145.6	11.0	9.9
1976-77	172.8	155.7	9.4	6.9
1977-78	193.8	169.1	12.2	8.6

2.4 Progress through the Ranks

COU and OCUA have for several years now concurred on the appropriate factor to be used in providing for the costs of PTR. The Operating Grants Committee last year conducted a study of those costs which confirmed the validity of the 2.0% figure as a weighted system average and no further evidence has become available which would indicate that a change in the factor is required.

In accordance, however, with our recommendation in section 2.2 above for a 30% differential for the cost of benefits, we are now recommending that a factor of 2.6% be applied to provide for the benefit cost implications of PTR.

2.5 Furniture and Equipment

In its funding advice for 1976-77, OCUA recommended that university expenditure on furniture and equipment in 1975-76 be supplemented not only to provide for inflationary pressure but also to permit a start to be made on an effective replacement programme for the large inventory which had been acquired during the preceding decade of university expansion. At that time, a supplement was established to provide additional funding equivalent to 2.5% of non-salary expenditure or about 0.5% of total expenditure. In theory, the funds available in 1976-77

Table 2-7

Expenditure on Furniture and Equipment 1972-73 to 1977-78

Furniture and Equipment		1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
Purchase	($ millions)	10.5	10.6	12.3	14.1	15.2	16.8
	(% of total operating)	2.2	2.0	2.1	1.9	1.9	1.9
Rental	($ millions)	7.9	8.2	8.2	9.1	8.4	8.1
	(% of total operating)	1.6	1.6	1.4	1.2	1.0	0.9
Total	($ millions)	18.4	18.8	20.5	23.1	23.6	24.9
	(% of total operating)	3.8	3.6	3.4	3.2	2.9	2.9

Sources: COFO, Total Revenue and Expenses Reports

were of the order of $29 million or about 4% of total expenditure. As can be seen from Table 2-7 only $23.6 million (3.2% of total expenditure) was spent on furniture and equipment replacement that year. Comparable figures for 1977-78 would show a provision of about $35 million against expenditure of $24.9 million.

The Operating Grants Committee is conscious of these facts when it recommends continuation of the 2.5% provision to supplement furniture and equipment replacement funds. Many factors will have contributed to the constraints imposed by universities on furniture and equipment expenditure but, in the final analysis, the sum of all these factors represents the inadequacy of funding in general.

One of the primary purposes of this brief is to make recommendations to OCUA regarding the financial requirements of the system. Provision for furniture and equipment replacement clearly remains one of those requirements and must continue to be included in OCUA's global funding model.

As to the adequacy of the provision itself, we note that both COU and OCUA have, for several years, shared similar doubts. The development of a statistical base, however, which would more accurately reflect what these costs should be is a substantial undertaking presently beyond the means of COU or any of its member institutions. In the absence of such data, we continue to take the prudent course of erring on what we believe to be the conservative side of the correct figure.

2.6 The Efficiency/Rationalization Factor

The so-called "efficiency" factor remains the one outstanding difference between COU and OCUA in the determination of system needs. As OCUA recognized in its advisory memorandum 78-I, COU last year presented "a rationale for calculation of this element of the funding exercise which yielded for 1979-80 a factor of -0.4%".

Pursuing this rationale further, the Operating Grants Committee notes that productivity growth in Canada has averaged 1.2% per annum for the years between 1975 and 1978. Clearly the assumption of a 3.1% increase implicit in COU's recommendation of a 0.4% efficiency factor was and remains too optimistic. A revised calculation based on extrapolation of the average productivity growth of the past three years yields an efficiency factor of 0.1%. The Operating Grants Committee recommends that this revised factor be used in the determination of 1980-81 funding.

The Operating Grants Committee also wishes to express its concern at an apparent transformation that OCUA has initiated to change the efficiency factor into a "rationalization" factor. We know of no evidence, which OCUA might have had before it, to justify beginning this process of metamorphosis. Even were such evidence available to substantiate the potential cost savings of system rationalization, we seriously doubt the propriety of deducting such savings from overall funding requirements. Rather, such savings must surely accrue to the system, providing some faint glimmer of hope that funding for qualitative improvements might thereby become available.

2.7 Projected Enrolment Variation

2.7.1 1978-79 Enrolment Summary

Two factors heavily influenced the Committee on Enrolment Statistics and Projections (CESP) when it was preparing its enrolment projections a year ago for the 1979-80 operating grants brief. It appeared then that there would be another drop in first year intake into undergraduate programmes in 1978-79 (based on a decline of 5.9% in 1977-78) and also a drop in intake at the graduate level. These factors led CESP to project a 2% decline in undergraduate enrolment and a 3% decline at the graduate level in 1978-79.

Detailed data on full-time enrolment were provided by the universities to CESP during its deliberations for the current brief. These data showed that full-time undergraduate enrolment in the Ontario system declined by 2.9% in 1978-79 and full-time graduate enrolment was down 2.6%. Part-time undergraduate enrolment registered an increase of 2.8% and part-time graduate enrolment (full-time equivalents) declined by 2.5%.

Examining the declines in full-time enrolment more closely, first year undergraduate enrolment (excluding education and professional programmes such as law and medicine) declined by 1.2%. The secondary school year 5 component of new registrants in first year declined 2.6% while the new registrants from other sources increased by 2.9%. The decline in first year was largely in arts and science programmes

which showed a drop of 5.7%. First year enrolment in commerce and business programmes increased about 20%; first year engineering grew by over 10%.

There was a 3.7% drop in upper year undergraduate enrolment (again excluding education and professional programmes). Arts and science enrolment in upper years declined by 6.4%, while enrolment in commerce and business programmes went up by 8.7%. Upper year enrolment in other programmes remained relatively stable.

Total enrolment in education programmes at the undergraduate level dropped in 1978-79 by 13.3%. As might have been expected, enrolment in professional programmes remained stable.

At the graduate level, full-time enrolment in masters and first stage doctoral programmes declined by 2.0% in 1978-79. At the second stage doctoral level the decline was 3.0%. There were, however, some signs that graduate enrolment might be stabilizing; new entrants at the masters and first stage doctoral level declined by only 0.7% while at the second stage doctoral level new entrants went up by 2.7%.

2.7.2 Projections for 1979-80

a) Full-time undergraduate enrolment

The preceding section has briefly examined the enrolment situation in the Ontario universities in 1978-79. CESP has not been able to find any reliable correlation with possible factors that may have influenced enrolment. We have to assume that a number of factors are at work, including the uncertain state of the economy and widespread misunderstanding of the value of a university education. COU has initiated steps aimed at presenting a clearer and more accurate picture of the contribution of universities to society. However, it will likely take some time before these efforts can effect a change in the public's perception of universities.

Examining undergraduate enrolment by sector, statistics from the Ministry of Education show that secondary school year 5 enrolment in the fall of 1978 remained about the same as enrolment in the previous year. As well, CESP can see no indications that there will be any significant increase in the number of applicants from other sources next year. The committee anticipates a further though modest decline in arts and science at the first year level but does not expect that commerce and business programmes are likely to increase as much in 1979 as they did in 1978. Taking these factors into consideration, CESP projects a net decline of 1% in first year undergraduate programmes in 1979-80 (excluding education and professional programmes).

The 3.7% decline in 1978-79 in upper years undergraduate enrolment was due in large part to the 6% drop at the first year level in 1977-78. The effects of the 1977 drop will continue to be felt in 1979-80 and this will affect mostly arts and science programmes. The committee, therefore, estimates that enrolment in upper years for all but education and professional programmes will drop by 3%. Enrolment in professional programmes will remain stable in 1979-80 but education programmes will exhibit a further decline. The closing of the two Ontario Teacher's Colleges next year may have some distorting effect but CESP concludes that undergraduate enrolment in education will decline by about 11%.

In summary, CESP predicts declines of approximately 360 students in first year, 2200 in upper years and 400 in education programmes. This would result in a decline in full-time undergraduate enrolment of about 3000 students or 2.5% in 1979-80.

b) Full-time graduate enrolment

As mentioned previously, full-time graduate enrolment declined in 1978-79 by 2.6%. However, as new entrants appeared to be fairly buoyant, the committee does not expect a more serious drop in enrolment in 1979-80. Nor is it anticipated that the large number of unapproved programmes will have too much effect on enrolment levels. Taking these factors into consideration, CESP projects that full-

time graduate enrolment in 1979-80 will decline by 2.5%.

c) Part-time enrolment

Due to a greater degree of fluctuation evident in part-time enrolment trends data, the committee has less confidence in its predictions of future levels of part-time enrolment. At the undergraduate level, the increase of 2.8% in 1978-79 followed a decrease of 2.6% in the previous year. Accordingly, as there is no strong evidence for making a projection for part-time enrolment that differs from the committee's projection for full-time enrolment, CESP predicts a 2.5% decline in part-time undergraduate enrolment. As part-time graduates are by and large full-time students who are completing their programme requirements, part-time graduate enrolment will probably behave in the same fashion as full-time enrolment, i.e. a 2.5% decline.

In conclusion, overall enrolment in the Ontario university system in 1979-80 is projected to decline by 2.5%. The Operating Grants Committee again wishes to direct the attention of OCUA to the fact that the impact of this enrolment decline is likely to vary considerably among the institutions.

2.7.3 Projections to 1982-83

While the exercise of projecting enrolment for the coming year is a risky undertaking, speculation on enrolment levels further into the future is even more perilous. Because we cannot rely on extrapolations of the participation rate, CESP has drawn on the experience and expertise of the committee members in attempting to predict the pattern of university enrolment up to 1983-84. At the undergraduate level, the committee feels that the combination of the secondary school year 5 population and the participation rate of year 5 students proceeding to university will result in a relatively stable supply of new entrants. The committee expects graduate enrolment to level off in the near future; preceding this levelling off there will be one or two years of continuing decline at a decreasing rate. The net effect will be a 2.0% decline in total enrolment in 1980-81, a 1.5% decline in 1981-82 and a further 1.0% decline in 1982-83. Commencing around 1983-84, available demographic evidence suggests increasing rates of decline.

2.8 Stabilization Factor

The principle that the full extent of annual enrolment variation should be moderated in determining global funding requirements is based on recognition of the fixed and variable nature of university costs. This principle has been in place now for several years and has been agreed to and supported by COU, OCUA and MCU. Consequently the Operating Grants Committee has used the standard 50% discount factor for enrolment variation.

The Committee wishes to serve notice, however, of two concerns it has which affect both the enrolment and stabilization factor. It notes that the distribution of funds between colleges and universities and among universities is now based on the use of three year averaging. Continuing use of a one year perspective in the OCUA system funding model seems therefore anomalous, given the widely accepted rationale for enrolment averaging. Further, the Committee notes that doctoral enrolment variation is now discounted by 2/3 in the allocative mechanism and that continuation of a 50% discount for doctoral students in calculating global funding creates a further anomaly. The Committee intends to examine these matters further during the coming year.

2.9 Minimum Requirements for 1980-81

2.9.1 Establishing the Funding Base

In the absence of institutional budgets for 1979-80, an attempt must be made to estimate the sum total and distribution by type of expense of 1979-80 base expenditure. OCUA's assumption that base expenditure in any given year must equal total revenue for that year is, of course, again accepted by the Operating Grants Committee as a starting point for its calculations.

Operating grant revenue for 1979-80 of $775.4 million is a known quantity; tuition fee revenue can be reasonably estimated at $145.3 million. It is, however, the smallest source of income, "other revenue" which remains problematical.

An historical summary of other revenue as defined by OCUA is presented in Table 2-8. For purposes of comparability in each year, several institutions which presently form a part of COFO reporting have been excluded from the analysis. In 1977-78, 35% of other revenue was derived from grants for municipal taxes and specifically identified line items. Since none of this latter money is available for discretionary allocation, it seems inappropriate to include it in a general consideration of general operating revenue. A further 36% of other revenue was derived from sales of goods and services and interfund transfers for which there

Table 2-8

Analysis of "Other" Revenue 1973-74 to 1977-78

($000's)

Excluding Algoma, Ryerson, OISE, OCA

	1973-74	1974-75	1975-76	1976-77	1977-78
Federal Grants	759	659	248	166	121
Municipal Grants	312	517	258	257	263
Gifts, Grants	1018	1398	1157	1083	1353
Sales				12821	12488
Investments	17981	24265	27248	8170	7889
Miscellaneous				6304	4138
Interfund Transfers				3853	4192
	20070	26839	28911	32654	30444
MCU Line Item	9053	7678	9047	6140	8880
Municipal Taxes	6085	6362	7023	7444	7572
	35208	40879	44981	46238	46896

would be offsetting operating expenditure not covered by grant or tuition income. It is the residual amount, then, which might be legitimately termed other revenue for general operating purposes. Between 1976-77 and 1977-78, this "legitimate" other revenue declined from $16.0 million to $13.8 million.

Only a small portion (10%) of this "legitimate" other revenue is derived from donations and bequests. Yet it is this one area which has recently received greatest attention and on which some have placed greatest expectation for significantly increased returns. In last year's brief, the

Operating Grants Committee affirmed its opinion that fund raising does not provide a realistic avenue for universities to supplement their general operating income in any significant way. This continues to be our view.

The position of the Operating Grants Committee is based on two sets of data. The first, presented in Table 2-9, demonstrates the reluctance of donors to designate gifts for general operating purposes. Of total university income of this type, only 3.3% was available in 1977-78 for unrestricted purposes. The second set of data relate to the pattern of corporate giving.

The Canadian situation is complicated by the fact that a large number of the corporations in Canada are foreign owned. The data show that

Table 2-9

Analysis of Gifts, Donations and Non-Government Grants by Type of Fund, 1973-74 to 1977-78 (excluding Algoma, Ryerson, OISE and OCA)

($000's)

	1973-74	1974-75	1975-76	1976-77	1977-78
Operating	1018	1398	1157	1083	1353
Other (incl. non-credit)	-	-	-	141	-
Ancillary Enterprises	-	84	7	12	29
Sponsored Research	11840	14172	18091	20411	21063
Trust and Endowment	7892	11106	11670	16872	15041
Capital	3192	2043	1828	3594	3084
	23942	28803	32753	42113	40570

United States-owned corporations in Canada give at an overall rate of 0.35 percent of profits, as compared with 0.5 percent for Canadian-owned corporations. Unfortunately, the number of Canadian corporations which participate is small, and the bulk of Canadian donations are made by the 200 leading Canadian corporations which comprise the Financial Post list.

In overall terms the national data indicate that the overall percentage of profits allocated to public donations has been declining each year, despite increased corporate profits. Within this decreased level, corporate support for universities has also been declining as a percentage of overall giving. While the older universities such as McGill, Toronto and Queen's have had some marked success, most universities have found difficulty in obtaining any significant or consistent level of corporate support despite the growing awareness among business and industrial corporations of the importance of their contributions to the development of the university system. In specific terms, support for higher education has dropped from 37.1 percent of the donation dollar in 1971 to less than 25 percent in 1977, while support for cultural and civic projects has increased from 12.8 percent in 1971 to over 20 percent in 1977. In the same period support for health and welfare has been sustained at over 48 percent and new diversions have been made to national athletic programmes which are a growing area of demand.[5] Moreover, requests for support from all segments of our complex society are increasing and the competition for the corporate donation dollar

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[5] Institute of Donations and Public Affairs Research. See, for instance, the Toronto Globe and Mail, November 2, 1978.

is becoming more intense, particularly in the light of the limitations that have been placed on Wintario grants and the reduction or suspension of federal programmes in many fields. The initiation of several new university campaigns and the regeneration of existing campaigns will exacerbate the situation.

Despite the short term advantage on investment interest rates, the Operating Grants Committee is unable to agree with OCUA that there has been "recent evidence of moderate growth in other revenues". It is, however, proposing that COFO-UO undertake a study of the nature of other revenue, the results of such a study to be available within a year. In the interim, the Committee feels that it has no prudent alternative but to continue using the OCUA base and to keep that base constant at $56.8 million. Total operating revenue for 1979-80 is therefore established at $977.5 million. This is distributed to salaries, benefits and non-salary items using the distribution of 1978-79 expenditure cited in Table 1-1. The results are presented in column 1 of table 2-10.

2.9.2 A Summary of the Factors in the Calculation

Previous sections of this brief have provided discussion of the various components of the OCUA funding model. These may be summarized as follows, with reference to Table 2-10.

Table 2-10

Estimate of the Cost of the COU Basic Funding Recommendations 1980-81

($000,000's)

	1 Estimated Expenditures 1979-80	2 Inflationary Trend Cost 1980-81	3 Existing Service Level Cost 1980-81	4 Efficiency Factor (negative)	5 Predicted Enrolment Costs + or (-)	6 Stabilization Factor + or (-)	7 Cost of Basic Objectives 1980-81
Salaries	700.2	42.0	14.8	(0.8)	(18.9)	9.5	746.8
Benefits	81.7	6.4	2.3	(0.1)	(2.3)	1.1	89.1
Non-Salary	195.6	14.5	5.3	(0.2)	(5.4)	2.7	212.5
	977.5	62.9	22.4	(1.1)	(26.6)	13.3	1048.4

Column 2: Inflationary Trend Cost 1980-81 - Provision for salary inflation +6.0%, for benefits +7.8% and for non-salary items +7.4%. (See Sections 2.1, 2.2 and 2.3 respectively.)

Column 3: Existing Service Level Cost 1980-81 - Provision for PTR on salaries +2.0%, the benefit implications of PTR +2.6% and for furniture and equipment replacement +2.5%. (See Sections 2.4 and 2.5.)

Column 4: Efficiency Factor - A discount for productivity of -0.1% is recommended. (See Section 2.6).

Column 5: Predicted Enrolment Costs 1980-81 - Total enrolment is projected to decline by 2.5%. (See Section 2.7.)

Column 6: Stabilization Costs - System enrolment variation is discounted by 50%. (See Section 2.8.)

2.9.3 Cost of the COU Basic Funding Recommendations

Column 7 of Table 2-10 sets out the cost of COU's basic funding recommendations for 1980-81. These total $1048.4 million and represent a 7.3% increase over 1979-80 funding levels. Assuming that tuition fee levels were increased at the same rate as the rate of increase in government grants, the cost to the government of implementing these recommendations would necessitate raising grants (and of course fees) by 8.04%. Further, it must be remembered that the university system has been seriously underfunded during the past two years. If no attempt is made to redress this underfunding, the university system in 1980-81 will be short some $58.1 million[6] relative to 1977-78 funding levels.

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[6] This is derived from the $54.1 million shortfall identified for 1979-80, with a provision for inflation.

3.0 THE FINANCIAL OUTLOOK TO 1983-84

3.1 The Government's Programme of Fiscal Restraint

In its 1979-80 operating grants brief, the Operating Grants Committee presented a series of models to demonstrate the widening gap between minimum system requirements and certain projections of total revenue which were implicit from the Provincial Treasurer's announced policy of government fiscal restraint. Within months after the appearance of our brief, it became apparent that projections of government revenue, on which plans for a balanced budget in 1980-81 had been based, were optimistic. By summer, the allowable rate of increase in controllable government expenditure had been reduced from 5.8% to 5.6%; by autumn, the figure had become 5.0% and the new Provincial Treasurer had made it clear that the elusive "break-even" budget would not now be attained until 1983-84.

None of this was encouraging news for the university system. The announcements meant not only that its own more pessimistic projections of the financial future would come to pass, but also that the period of constrained financing was to be doubled from three to six years.

What follows is an attempt to measure financially the total impact of this six year period of restraint on the Ontario university system.

3.2 Projecting System Requirements

The fiscal year 1977-78 was the last in which the level of government funding closely approximated any rational estimate of system needs. Clearly then, 1977-78 must be regarded as a base year in any exercise that attempts to measure the total impact of the government's programme of fiscal restraint. Certain accounting changes, however, make it difficult to reconstruct the 1977-78 base in a format comparable to that used for 1978-79 by OCUA in advisory memorandum 78-I. To simplify matters, the $30.6 million[7] shortfall identified by COU in 1978-79 funding has been added to the 1978-79 OCUA funding base, in order to calculate a revised 1977-78 base.

With the exception of the factor for enrolment variation, which is based on the projections contained in Section 2.7, all of the factors used in this modelling exercise replicate for each year those employed in the projection of 1980-81 minimum needs. The results are presented in Table 3-1. Given present and recent rates of inflation, these revenue requirements are clearly conservative; they represent a recognition on the part of the university system of the view of both federal and provincial governments that fiscal restraint must be exercised in all sectors if recurrence of the inflationary spiral of the mid 1970's is to be avoided.

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[7] The Price of Restraint, p.6

Table 3-1

Total Revenue Requirements of the Ontario University System to 1983-84

	$ 000,000's	% Increase
1977-78	897.7	
1978-79	966.6	7.7
1979-80	1031.6	6.7
1980-81	1106.5	7.3
1981-82	1189.9	7.5
1982-83	1282.9	7.8
1983-84	1387.0	8.1

The model sees minimum system requirements rising from a level of $897.7 million in 1977-78 to $1387.0 million in 1983-84. This represents an average annual rate of increase for the period of 7.5%.

3.3 Projecting System Revenues

The three basic components of university operating revenue are grants, tuition fees and "other" revenue and each has been separately projected in this modelling exercise.

In last year's brief, the Operating Grants Committee projected increases in grant revenue within a range of +4.5% to +5.8%. For the current exercise, recent statements by the Treasurer make use of anything higher than a +5.0% figure unrealistic. Such a figure might be deemed to be optimistic in view of the 4.8% increase afforded the university system

for 1979-80.

Policy regarding tuition fee revenue is presently in a state of flux, with speculation about the promise/threat of tuition fee "autonomy" current. Last year, the Committee modelled tuition fee increases that ranged from 0.0% to 5.8%, i.e. to the maximum projected rate of grant increase used in the total revenue forecast. This was deemed to be consistent with existing COU policy as enunciated in a "Statement of Principles".[8]

It has become clear that continuation of a policy of frozen tuition fees is no longer practical in the face of serious financial constraints. In the absence of a revised COU position on tuition fees, however, the Operating Grants Committee has chosen in this brief to continue its previous methodology of tying tuition fee increases to the rate of increase in government grants.

The final component of total revenue is the category "other" revenue. For reasons described in Section 2.9, this component is projected to remain constant through 1983-84.

Table 3-2 presents projected total revenue under the assumptions

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[8] Statement of Principles Which Should Govern the Setting of Tuition Fees. COU, June, 1976

cited above. The table also presents the level of underfunding implicit in these figures by comparison to minimum system requirements as outlined in Table 3-1.

Table 3-2

Projection of System Revenue to 1983-84 and Implicit Level of Underfunding ($000,000's)

	Projected Revenue	Level of Underfunding
1978-79	936.0*	30.6
1979-80	977.5*	54.1
1980-81	1020.5	86.0
1981-82	1066.3	123.6
1982-83	1115.1	167.8
1983-84	1164.7	222.3

* Actual

By 1983-84, the government's programme of fiscal restraint might be expected to create a gap of about $220 million between minimum requirements and total revenue. This would represent about 20% of system revenue at that time.

It should be noted, however, that this estimate of minimum requirements represents a contraction of resources arising from enrolment decline and demands for increased productivity. Strictly inflationary pressures would generate a system requirement in 1983-84 of $1487.8 million,[9]

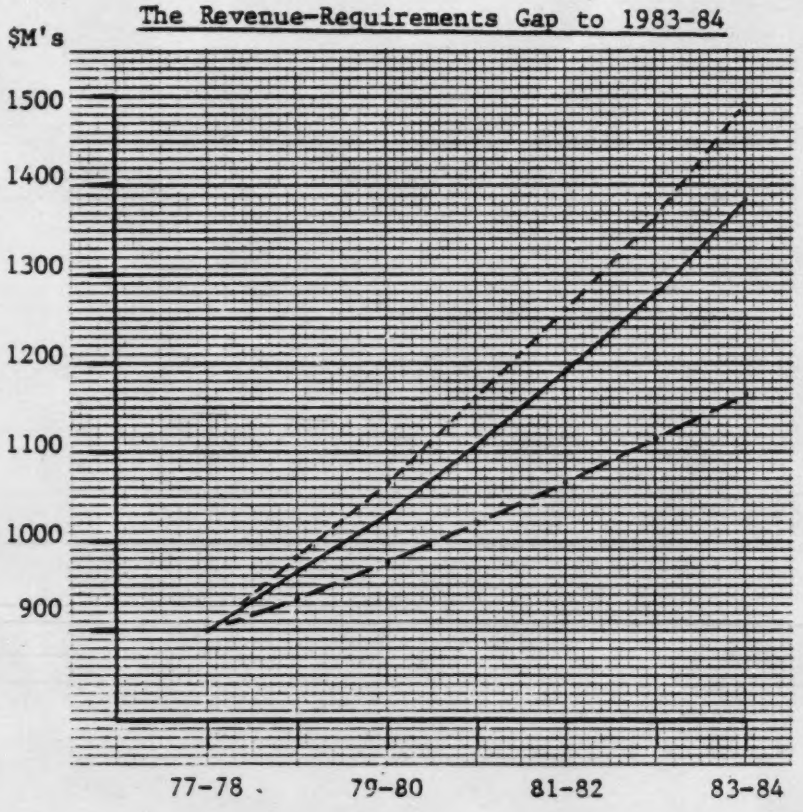
[9] This is the figure which results when reductions for productivity and enrolment variation are excluded from the system requirements model.

widening the gap even further to $325 million or about 30% of the projected level of revenue for that year. Projection lines for 1) inflationary requirements, 2) COU minimum requirements and 3) revenue are illustrated in Figure 3-1.

As would be the case in any other sector or activity, universities face two options in addressing this serious gap between requirements and revenue - to decrease expenditure or to increase income such that the gap is closed.

Figure 3-1

The Revenue-Requirements Gap to 1983-84



3.4 Reducing Expenditure

Viewed from the perspective of a requirement to decrease expenditure, the figures cited above can be recast. For the period in question, universities will be required to decrease 1977-78 base expenditure by about 25% in constant dollars, about 1/3 of which is attributable to declining enrolment and demands for increased productivity with the remaining 2/3 attributable to government underfunding. In annual terms this means a recurring 3.5% decrease in base expenditure over a 6 year period.

In last year's brief the Operating Grants Committee reviewed the implications of reducing expenditure levels to match estimated revenue in a period during which revenue cannot be matched with minimum financial requirements. This year the Committee has undertaken a review of its previous submission and remains convinced that the points made last year were, and are, valid and must be reiterated.

3.4.1 Non-salary expenditure

We have repeatedly attempted to make the point that the universities are consuming their capital resources in a forlorn attempt to make ends meet. In an effort to draw OCUA's attention to the seriousness of the problem we have previously used raw COFO-UO data to demonstrate the decreasing percentage of total operating expenditures which remain for non-salary purposes. For this year's presentation, we have con-

ducted further analyses of the COFO-UO data and refined our presentation of it by netting out internal cost allocations. The data presented in Table 3-3 demonstrate very clearly the seriousness of the problem which has arisen in the last few years. In an effort to maintain the viability of teaching activity, salaries are of necessity consuming an ever increasing part of the meagre funds available to the university system. It should be noted that not only has non-salary expenditure decreased significantly as a proportion of total expenditure, but also that the rate of non-salary inflation implies that the purchasing power of the dollars available to the non-salary area is very much reduced compared to 1970-71 levels. For this reason, in the modelling which follows, we are assuming non-salary expenditure could do no more than share equally in the budgetary reductions being hypothesized.

Table 3-3

Percentage Analysis of Operating Expenses

1970-71 to 1977-78

	1970-71	1972-73	1974-75	1975-76	1976-77	1977-78
Salaries and Wages:						
Academic Ranks	36.7	38.3	37.4	37.7	38.3	38.5
Other Teaching and Research	4.5	4.1	4.6	4.6	4.6	4.3
Other Salaries and Wages	29.9	30.5	29.9	30.2	29.9	30.0
Employee Benefits	5.8	6.6	7.0	7.6	8.0	7.9
Total Salaries and Benefits	76.9	79.5	78.9	80.1	80.8	80.7
Non-Salary Items	23.1	20.5	21.1	19.9	19.2	19.3
	100.0	100.0	100.0	100.0	100.0	100.0

Source: COFO-UO Total Revenue and Expenses Reports

3.4.2 Salary Expenditure

Models of reducing salary and benefit expenditures are fraught with problems of both a technical and practical nature. Attrition does not necessarily occur from areas in which complement reductions are possible, declines in enrolment are not distributed equally among all institutions, and the priorities of individual institutions are not likely to conform to the assumption of equalized reduction across all sectors contained in the Committee's models. Technically, enrolment projections are still fraught with uncertainty, Statistics Canada data on faculty are not as clear or as hard as we would like, and data on other than faculty complements are virtually non-existent. In short, our models are not intended as projections, but they can reasonably be expected to indicate the approximate magnitude and direction of the problem facing our universities.

Last year we presented a model of declining full-time academic staff complement. We have updated that model in Table 3-4, using our revised projection of system revenue.

Even under circumstances in which COU's basic objectives were met, total faculty complement might be expected to decline by almost 800 positions or over 6.8% during the period between 1977-78 and 1983-84. Under our projected revenue model, total faculty complement would

Table 3-4

Possible Full-time Academic Staff Complement Reduction

		1977-78	1978-79	1983-84
Assuming COU basic objectives are met	complement[2]	11,748	11,717[1]	10,950
	decline from 77-78		31	798
	% variation from 77-78		(0.3)	(6.8)
Assuming grants and fees increase at 5% p.a.	complement[2]	11,748	11,717[1]	9,195
	decline from 77-78			2,553
	short fall over COU basic objectives			1,755
	% variation from 77-78		(0.3)	(21.7)

1. Estimate for current year.

2. Excludes Ryerson and OCA.

decline by 2550 positions, or about 22% during the same period. The implications of this modelling are clear; by 1983-84 the university system might be expected to have some 1750 fewer faculty than would be the case if COU minimum requirements were met. Under these conditions, the university system would be hard pressed to meet its basic teaching commitments; the level of community service activity would undoubtedly suffer; and the urging of both federal and provincial governments to increase research activity would, of necessity, remain unanswered.

With respect to non-academic staff, we note, as OCUA directly pointed out in A Statement of Issues, that an equal percentage reduction in salary budgets would lead to a reduction in non-academic staff complement numerically greater than the reduction in academic staff complement. This is the inevitable result of the size of the non-academic staff complement. For example, if one were to assume that there are approximately twice as many non-academic staff as academic staff, then we might expect a reduction in non-academic staff complement of about 1600 under COU minimum requirements and about 3400 using our projected revenue models.

What is so insidious about repeated annual levels of underfunding is that if budgetary reductions of this order are required, they will undoubtedly be achieved. As OCUA has recognized in "A Statement of Issues", universities have acted and continue to act in a fiscally responsible way during the present decade. Each year that further cuts are required, further cuts are achieved. Without modelling of this sort, which some might view as unduly alarmist, we run the risk of arriving in 1983-84 without a full appreciation of the magnitude of the changes which will have been imposed upon the university community.

OCUA, in the introduction to its Fourth Annual Report, provides evidence that real costs per student declined by 10% between 1970-71 and 1977-78. The preliminary work of the COU Ad Hoc Committee on Macro-Indicators suggests that the funding picture this decade has been less generous than even OCUA has indicated. Thus it appears that we started into a period of fiscal constraint from a position that was already tenuous.

3.5 Increasing Revenue

In 1977-78, 80.5% of university operating revenue was derived from provincial grants, 15.7% from tuition and miscellaneous fees and the remaining 3.8% from "other" revenue. For reasons outlined in Section 2.9 above, we believe it is simply unrealistic to assume that any significant increase can be achieved in this latter item. We will focus our attention therefore on tuition and grant revenue.

3.5.1 Tuition and Other Fees

In the revenue models presented in Section 3.3 above, it was assumed that tuition fees would have to be increased annually by at least the rate at which grant revenue was permitted to increase. Other alternative models might have been:

a) that tuition fees should be indexed to inflation;

b) that fee rates should rise until they generate a fixed proportion of grant and fee revenue, say 20%, and be held there subsequently; or

c) that fees should rise to cover the full extent of government underfunding.

Table 3-5 models each of these options. Option a), which sees tuition fees indexed to the rate of inflation makes little impact

on total revenue because the inflation rate used to generate 1983-84 minimum requirements was set at +6% per annum. A higher rate of inflation would give rise to a higher estimate of requirements and in fact ground would be lost because fees represent such a small proportion of total income.

Option b), the pegging of tuition fees to a fixed proportion of grant and fee revenue would see tuition fee levels rise by about 75% between 1979-80 and 1983-84. The additional revenue generated by 1983-84 (about $70 million), would address about 1/3 of the gap between minimum requirements and total revenue. Table 3-6 examines the proportion of grant and fee revenue represented by tuition fees during the present decade. Looking at earlier Statistics Canada data, we note that the last year in which tuition fees constituted as much as 20% of total revenue in Ontario was 1968-69. Finally, we note that tuition as a proportion of total revenue in 1977-78 in the rest of Canada was 11.3%.

Table 3-5

The Implications of Alternative Fee Levels, 1983-84

Fees rise:	Fee Level	Revenue Generated ($000,000's)	Tuition as % of Grants & Fees
At rate of grant increase (+5%)	$874	$165.4	14.9
At rate of inflation (+6%)	908	171.8	15.4
To form 20% of grants and fees	1245	235.6	20.0
To meet minimum requirements	2049	387.7	29.1

Option c), which sees all of our revenue shortfall through 1983-84 met by increasing tuition fees, gives rise to a fee level about 185% higher than the 1979-80 rate. Tuition as a proportion of total revenue rises to 29%.

Table 3-6

Fees as a % of Grant and Fee Revenue
(Source: COFO-UO)

	Tuition and Other Fees ($000's)	Grant and Fee Revenue ($000's)	Tuition as % of Total
1970-71	65413	385977	16.9
1971-72*	69228	376385	18.4
1972-73	85849	459450	18.7
1973-74	95880	499632	19.2
1974-75	101626	562121	18.1
1975-76	117641	685266	17.2
1976-77	119162	753190	15.8
1977-78	137390	828539	16.6

* Ten month fiscal year

The Operating Grants Committee draws no conclusions from any of the above. It notes, however, that policy regarding tuition fee levels must have more than an arithmetic base and cautions against major changes in fee levels that are not rooted in a thorough re-examination of the major issues of accessibility and participant cost-sharing. And finally, it notes the inevitable relationship that must exist between fee levels and the availability of student aid.

3.5.2 Grant Revenue

It may seem odd to include grant revenue in a section of the present brief which projects levels of underfunding and explores the options which universities might adopt to overcome the revenue-requirements gap. Grant revenue is clearly not a matter over which universities have any control. It is in the end, however, what this brief is all about.

Had the government's programme of fiscal restraint not been implemented when it was, grants and fees might have shared the rising costs of higher education in Ontario by increasing at a rate of 8.3% a year through 1977-78 to 1983-84. The minimum requirements of the system would have been met and a significant investment in the province's universities protected. Institutions would still have been required to reduce base expenditure because of declining enrolment and demands for increased productivity but at least the situation would have been manageable.

As it is, one year's tuition fee increase was foregone in 1978-79 and grant revenue was restricted to increases of 5.8% and 4.9% in 1978-79 and 1979-80 respectively. The result is that the system is already short of minimum requirements by $54.1 million. To recover this lost ground, and to meet these minimum requirements, grants and tuition fees will have to be increased by 9.9% annually in order to meet 1983-84 needs, as measured against a standard of quality for which 1977-78 is chosen

as a modest benchmark. Should it be deemed appropriate that the university system forego the recovery of this lost ground, annual increases in grants and tuition fees of 8% are required. All of this compares to a projected rate of grant increase of 5% a year.

4.0 CONCLUSION

The Operating Grants Committee has recently formed the impression, rightly or wrongly, that there is little it can do to alter the financial future of the Ontario university system. It appears that no arguments, however compelling, are likely to affect the decisions of government about the general level of funding for universities. Since the Committee operates at a level far removed from the locus of decision-making, this impression, if mistaken, is at least understandable in the present circumstances.

The Committee has made a serious effort to inform itself about the complex and, for some, compelling arguments which have led the government to adopt a financial plan intended to produce a balanced provincial budget in 1983-84, a plan under which all publicly supported activities are to share more or less equally in the attainment of the objective. We cannot but wonder whether the principles and policies developed by the government to guide Ontario into the 1980's have anything more than an arithmetic foundation, and a very crude one at that. For they do not appear to be based on any clear policy priorities. If the present imposition of financial constraint on the university system does form part of some plan for the long term social and economic development of the province, the government has a responsibility to inform both the universities and the public of the nature of this plan. Our fundamental concern is that there is no plan.

Ontario universities have contributed a great deal to the economic, social,

cultural and intellectual development of this province; and they continue to do so. But as a direct result of the extended programme of government fiscal restraint, the universities are now very seriously threatened. Universities are institutions that take time to develop and they cannot be altered substantially in a short period without suffering real damage. The current contributions to the well-being of Ontario by this province's institutions of higher learning rest upon foundations that were laid many years ago. The repercussions of the changes being forced on the universities will echo through the remaining years of this century. Regardless of what accommodations are made, the very magnitude of the gap between the minimum financial requirements of Ontario's universities and their projected revenue will dictate severe adverse effects on the contributions that they can make to the progress of our society.

There should be no doubt that the universities, as responsible public institutions, will respond creatively to the financial crisis that faces them. They will emerge from the period of financial constraint as academically strong as could be reasonably expected. But there is no disguising the fact that an extended period of erosion of university resources will have serious negative consequences upon their ability to meet adequately the future needs of the province in dealing with the increasing complexity of our society. No university system can absorb a twenty-five percent reduction in revenue over a six year period without suffering massive readjustments in both level and quality of services. Deprived of the base of strong universities, Ontario will be unable to furnish the advanced research and teaching required for an

advanced industrial society such as ours. It may appear to some that the universities' concerns over the adverse effects on them of the current financial constraints are but the statements of a group with a vested interest in the status quo. But this would be fundamentally erroneous. If present conditions continue, the universities will suffer, but they will adjust. In the final analysis, it will be future generations of Ontario citizens who will pay the price of this restraint. And the price will be very high.

APPENDIX A

Update to the Ontario University Non-Salary Price Index

Introduction

When the University Non-Salary Price Index for Ontario[1] was presented to OCUA last year, we recognized that the initial report contained certain shortcomings. A commitment was therefore made to review it for this year. The results of this review, undertaken by the Research Division of COU, are presented here.

The review has led to changes in certain component indices and hence to minor changes in the value of the overall index for each year. It has not, however, led to substantial changes in the approach taken, to the conclusions reached, or, as it happens, to the overall numerical value of the index in 1977-78. With one exception, noted below, the Research Division is satisfied that the non-salary price index is now as adequate an indicator of the price increases in non-salary items encountered by Ontario universities, as can be constructed from existing data. While further refinements could be made in the component price indices in order to relate them even more closely to prices actually being paid by universities, it is our impression that such refinements would have only a marginal impact on the overall index.

Revisions

The methodology, item content and weighting pattern of OUNSPI have remained unchanged from last year. The weighting pattern is shown in Table A-1: typographical errors have been corrected and the natural gas and fuel oil components have been separated, using the same relative weights described in the text of last year's report, in order to more easily deal with a change which will be described subsequently.

The figure contained in last year's report for books for the year 1976-77 was based on an estimate as a final figure was not available. In this year's Table A-2, the index figures for books for 1976-77 is now final and that for 1977-78 is an estimate.

The index used for computing in last year's report was based on figures obtained from IBM for the monthly rental of an IBM 370 model 158 computer in Toronto. This computer is no longer a current model and hence monthly rental rates no longer reflect the cost of computer operations. Efforts by COU staff to identify an appropriate methodology for conversion to a new price index have so far not proven fruitful. Further, as far as can be determined, no cost of computing index presently exists either in Canada or in the United States. We have therefore chosen to follow the lead set by a working paper prepared for the Science Council of Canada Task Force on Research[2] and have used the Canadian Consumer Price Index

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[1] Ontario University Non-Salary Price Index, COU, February, 1978

[2] Federal Funding of Science in Canada: Apparent and Effective Levels. A Working Paper, Prepared for the Science Council of Canada Task Force on Research in Canada.

as a proxy for a price of computing index. The failings of this approach are well understood; the impact on the overall OUNSPI is not likely to be very substantial.

In last year's report the electricity price index was based on estimates from Ontario Hydro of supplying electricity to a user similar to the University of Toronto. Staff efforts to reproduce this index from available Ontario Hydro data were not successful. After much study, we have opted to use instead the recently published Statistics Canada Electric Power Selling Price Index (Non-Residential), for users over 5000KWH in Ontario. Our studies suggest that this index follows reasonably closely the electricity price increases encountered by Ontario universities, except insofar as it does not take account of the higher per unit cost demanded by Ontario Hydro or by local utilities as energy saving measures take effect and total consumption declines.

In last year's report a composite gas and oil price index was calculated from data supplied by three universities. This index could not be continued due to changes at one of these institutions; in addition, Research Division staff were concerned that the index as calculated put too heavy an emphasis on natural gas price increases and took insufficient account of fuel oil price increases. Fuel usage patterns and fuel prices vary dramatically across Ontario's universities; again, study has suggested that the recently revised Statistics Canada Industry Selling Price Index for Heavy Fuel Oils #4, #5 and #6, and the Canadian Consumer Price Index for Natural Gas will suffice at present as good indicators of the year-to-year price increases for these utilities experienced by Ontario Universities.

Finally, minor changes in the arithmetic have caused equally minor changes to the values of individual component indices. For easy reference, the source for each of the component indices is identified in Figure A-1.

Conclusion

The results of the revisions described above and of the addition of one year of data (data for 1977-78) and presented in Tables A-2 and A-4. The figures for 1977-78 are final, while the figures for 1978-79 contained in Table A-4 are a forecast based on the data available since the beginning of the 1978-79 fiscal year (for most components, six months) compared to the same period in 1977-78. Table A-3 shows the year to year increases in the costs of each of the components of OUNSPI.

Table A-1

Non-Salary Price Index Weighting Pattern

Item Component	Index Weight
Books	6
Periodicals	5
Equipment	8
Computing	6
Furniture	3
Stationery & Paper	10
Printing Materials	9
Tools & Apparatus	9
Chemicals	5
Postage	2
Long Distance	2
Electricity	9
Gas	5
Oil	3
Telephone	3
Renovations	2
Transportation	5
Shelter	2
Food Away From Home	2
Insurance	2
Space Rental	2

Table A-2

COMPONENT PRICE INDICES IN THE ONTARIO UNIVERSITY NON-SALARY PRICE INDEX (BASED ON FISCAL YEAR 1970-71 = 100)

Component	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78
Books	100.0	109.9	105.8	100.?	113.2	135.3	140.9	157.5
Periodicals	100.0	108.3	120.5	149.0	159.3	186.6	204.3	240.6
Equipment	100.0	101.4	101.8	107.1	127.7	144.4	151.0	175.9
Computing	100.0	103.9	109.2	118.9	132.5	145.6	155.7	169.1
Furniture	100.0	105.0	109.9	122.0	140.0	151.9	161.1	169.0
Stationery & Paper	100.0	101.1	103.1	124.0	165.9	180.9	187.5	196.9
Printing Materials	100.0	101.7	106.3	130.4	161.0	164.5	163.3	170.1
Tools & Apparatus	100.0	103.2	105.6	112.8	130.9	145.2	154.6	172.5
Chemicals	100.0	101.1	102.9	114.2	149.0	163.9	170.8	181.0
Postage	100.0	112.3	120.8	120.8	120.8	121.3	144.7	181.3
Long Distance	100.0	102.1	106.0	108.5	109.7	114.3	120.7	128.8
Electricity	100.0	104.9	112.1	'21.1	131.0	163.3	183.8	235.8
Gas	100.0	101.5	101.9	106.9	120.2	151.2	184.6	213.4
Oil	100.0	111.7	108.0	166.7	253.6	279.2	330.9	399.8
Telephone	100.0	102.1	106.0	108.5	109.7	114.3	120.7	128.8
Renovations	100.0	104.4	109.8	122.9	146.2	154.3	162.9	174.0
Transportation	100.0	103.9	105.8	111.1	123.3	138.4	151.2	160.3
Shelter	100.0	105.3	111.6	118.9	128.1	140.5	155.8	169.0
Food away from home	100.0	104.5	112.4	130.1	154.1	172.4	185.2	195.1
Insurance	100.0	128.5	155.4	190.2	215.3	271.2	328.7	368.9
Space Rental	100.0	105.3	111.6	118.9	128.1	140.5	155.8	169.0

Table A-3

ANNUAL PERCENTAGE VARIATION IN THE ONTARIO UNIVERSITY NON-SALARY PRICE INDEX COMPONENTS

Component	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78
Books	-	9.9	(3.7)	5.3	13.0	19.5	4.1	11.8
Periodicals	-	8.3	11.3	23.7	6.9	17.1	9.5	17.8
Equipment	-	1.4	0.4	5.2	19.2	13.1	4.6	16.5
Computing	-	3.9	5.1	8.9	11.4	9.9	6.9	8.6
Furniture	-	5.0	4.7	11.0	14.8	8.5	6.1	4.9
Stationery & Paper	-	1.1	2.0	20.3	33.8	9.0	3.6	5.0
Printing Materials	-	1.7	4.5	22.7	23.5	2.3	0.7	4.2
Tools & Apparatus	-	3.2	2.3	6.8	16.0	10.9	6.5	11.6
Chemicals	-	1.1	1.8	11.0	30.5	10.0	4.2	6.0
Postage	-	12.3	7.6	-	-	0.4	19.3	25.3
Long Distance	-	2.1	3.8	2.4	1.1	4.2	5.6	6.7
Electricity	-	4.9	6.9	8.0	8.2	9.4	28.3	28.3
Gas	-	1.5	0.4	4.9	12.4	25.8	22.1	15.6
Oil	-	11.7	(3.3)	54.4	52.1	10.1	18.5	20.8
Telephone	-	2.1	3.8	2.4	1.1	4.2	5.6	6.7
Renovations	-	4.4	5.2	11.9	19.0	5.5	5.6	6.8
Transportation	-	3.9	1.8	5.0	11.0	12.2	9.2	6.0
Shelter	-	5.3	6.0	6.5	7.7	9.7	10.9	8.5
Food away from home	-	4.5	7.6	15.7	18.4	11.9	7.4	5.3
Insurance	-	29.5	20.9	22.4	13.2	26.0	21.2	12.2
Space Rental	-	5.3	6.0	6.5	7.7	9.7	10.9	8.5

Table A-4

Ontario University Non-Salary Price Index

(1979 revision; 1970-71 = 100)

YEAR	OUNSPI	CPI	OUNSPI Annual % Increase	CPI Annual % Increase
1970-71	100.0	100.0		
1971-72	104.5	103.9	4.5	3.9
1972-73	108.3	109.2	3.6	5.1
1973-74	121.1	118.9	11.8	8.9
1974-75	142.3	132.5	17.5	11.4
1975-76	157.9	145.6	11.0	9.9
1976-77	172.8	155.7	9.4	6.9
1977-78	193.8	169.1	12.2	8.6

Figure A-1

Source of Component Indices

Component	Source
Books	Bowker (U.S.) Hardcover Book Price Index converted for Canadian dollar fluctuations
Periodicals	Bowker (U.S.) Periodical Price Index, converted for Canadian Dollar fluctuations
Equipment	U.S. Bureau of Statistics Producer Price Index for Machinery and Equipment, converted for Canadian dollar fluctuations.
Computing	Consumer Price Index for Canada, All items not seasonally adjusted.
Furniture	Statistics Canada Industry Selling Price Index - Office Furniture
Stationery & Paper	Statistics Canada Industry Selling Price Index - Paper and Allied Products.
Printing Materials	Statistics Canada Industry Selling Price Index - Fine Papers
Tools & Apparatus	Statistics Canada Industry Selling Price Index - Hardward, Tools and Cutlery
Chemicals	Statistics Canada Industry Selling Price Index - Chemical & Chemical Products
Postage	Statistics Canada Consumer Price Index - Postage
Telephone Long Distance	Statistics Canada Consumer Price Index - Telephone
Electricity	Statistics Canada Electric Power Selling Price Index (Non-Residental) consumers over $000 kw, Ontario
Gas	Statistics Canada Consumer Price Index - Gas
Oil	Statistics Canada Industry Selling Price Index - Heavy Fuel Oils 4, 5 and 6.
Renovations	Statistics Canada Non-Residential Construction Price Index - Materials
Transportation	Statistics Canada Consumer Price Index - - Transportation
Shelter Space Rental	Statistics Canada Consumer Price Index - Shelter

Food Away From Home	Statistics Canada Consumer Price Index - Food away from home
Insurance	Statistics Canada Consumer Price Index - Dwelling Insurance